

	1	10	20	30	40	50	60
Hum_PTP1B	DFPCRVAKL	PKNKN	RNRYRDVSP	FDH	SR	IKL	HQE
Hum_TCPTP	DYPHRVAKF	PPENRN	RNRYRDVSP	YDHS	RV	LQNA	EN
Hum_PTP_xi_D1	GITADSSNH	PDNKH	KNRYINIVAY	DH	SRV	KLAQL	AEK
Hum_PTP_zela_D1	GITADSSNH	PDNKH	KNRYINIVAY	DH	SRV	KLAQL	AEK
Hum_PTP_gamma_D	NITAEHSNH	PENKH	KNRYINILAY	DH	SRV	KLRPL	PGK
Dros_PTP99A_D1	DLPCEHSQH	PENKR	KNRYLNITAY	DH	SRV	HLHPT	PGQ
Hum_LCA_D1	QFTWENSNL	EVNKP	KNRYANVIA	DH	SRV	ILTSI	DGV
Hum_PTP_mu_D1	SAPWDSAKK	DENRM	KNRYGNIIAY	DH	SRV	LQTI	EGD
Hum_PTP_alpha_D1	QATCEAAS	KEENKE	KNRYVNILPY	DH	SRV	HLTPV	EGV
Hum_PTP_opsilon_D	QGTFFELAN	KEENRE	KNRYPNILPN	DH	SRV	ILSQL	DGI
Mouso_CD45_D1	KFPIKDARK	KPHNQ	KNRYVDILPY	DY	NRV	ELSEI	NGD
Hum_SH.PTP2	LYSRKEGQR	QENKN	KNRYKNILPF	DH	SRV	ILHVG	DPN
Hum_SH.PTP1	LHQRLEGQR	PENKG	KNRYNNILPF	DH	SRV	ILQGR	DSN
Hum_PTP_bola	NQSCDIAL	LPENRG	KNRYNNILPY	DA	TRV	KLSNV	DDD
Dros_PTP10D	DQCTFADL	PCNRP	KNRFTNILPY	DH	SRF	KLPV	DDD
Hum_SAP.1	SQSQMVAS	ASENNA	KNRYRNVL	PDY	DWS	RVPLKPI	HEE
Ral_PTP_STEP	FVDPKEYD	IPLGVR	KNRYKTILPN	PHS	RVRLTSP		DPE
Dros_PTP69A_D1	DRTTKNSD	LKENAC	KNRYPDIKAY	DQ	TRV	KLAVI	NGL
Hum_MEG2	VGTFHCSM	SPGNLE	KNRYGDP	VPCLD	Q	TRV	SGH
Hum_PTP.PEST	IYPTATGE	KEENVK	KNRYKDILPF	DH	SRV	KLTLLK	TPS
Hum_PTPH1	GLAITFAK	LQPNLD	KNRYKDVLP	YDT	TRV	LQGN	EDY
Dici_PTP1	PSETSEGD	KKHNTS	KNRYTNILPV	NH	TRV	QLKKI	QDK
Fiss_yeast_pyp1	QWSTVDSL	SNTSYK	KNRYTDIVPY	NCT	TRV	HLKRT	SPS
Fiss_yeast_pyp2	WCCCLASSR	STSISR	KNRYTDIVPY	DK	TRV	RLAVP	KGC
Hum_PTP_xi_D2	GITADSSNH	PDNKH	KNRYINIVAY	DH	SRV	KLAQL	AEK
Hum_LCA_D2	TSRFISAN	LPCKNF	KNRLVNI	MPYEL	TRV	CLQPI	RGV
Hum_PTP_alpha_D2	NDKMRTGN	LPMK	KNRVLIQI	IPYEF	NRV	IIPVK	RGE
Hum_PTP_opsilon_D2	KENMRTGN	LPMK	KARVIQI	IPYDF	NRV	ILSMK	RGQ
Hum_PTP_mu_D2	VEDCSIAL	LLPRNHE	KNRCMDIL	PPD	RCL	PFLITI	DGE
Mouse_CD45_D2	WRTQHIGN	QENKK	KNRNSNV	VPYD	FN	RVPLKHE	LEMSKESEPESESSDDSD
Dros_PTP69A_D2	SKSCSVGE	NEENNM	KNRSOEI	IPYD	RNR	VILTPL	PMR
Hum_PTP_zeia_D2	QSDYSAAL	KQCNR	KNRTSSI	IPV	ERS	RVGISSL	SGE
Hum_PTP_gamma_D2	VECFSAQ	KECNKE	KNRNSV	VP	SE	ARVGLAPL	PGM
Dros_PTP99A_D2	ETNLMAE	QVEELK	NCTPYL	EOYK	NIQ	FOPKD	IHASAMKOVNSIKNRGAI
Varsinia_PTP	TNDPRYLO	ACGGEKI	LNRFRD	IOCC	ROT	AVRAD	PIEGSRVHLTPKP
PTP1Bseq.no.	30	40	50	60			

Fig. 1A

PTP1B66

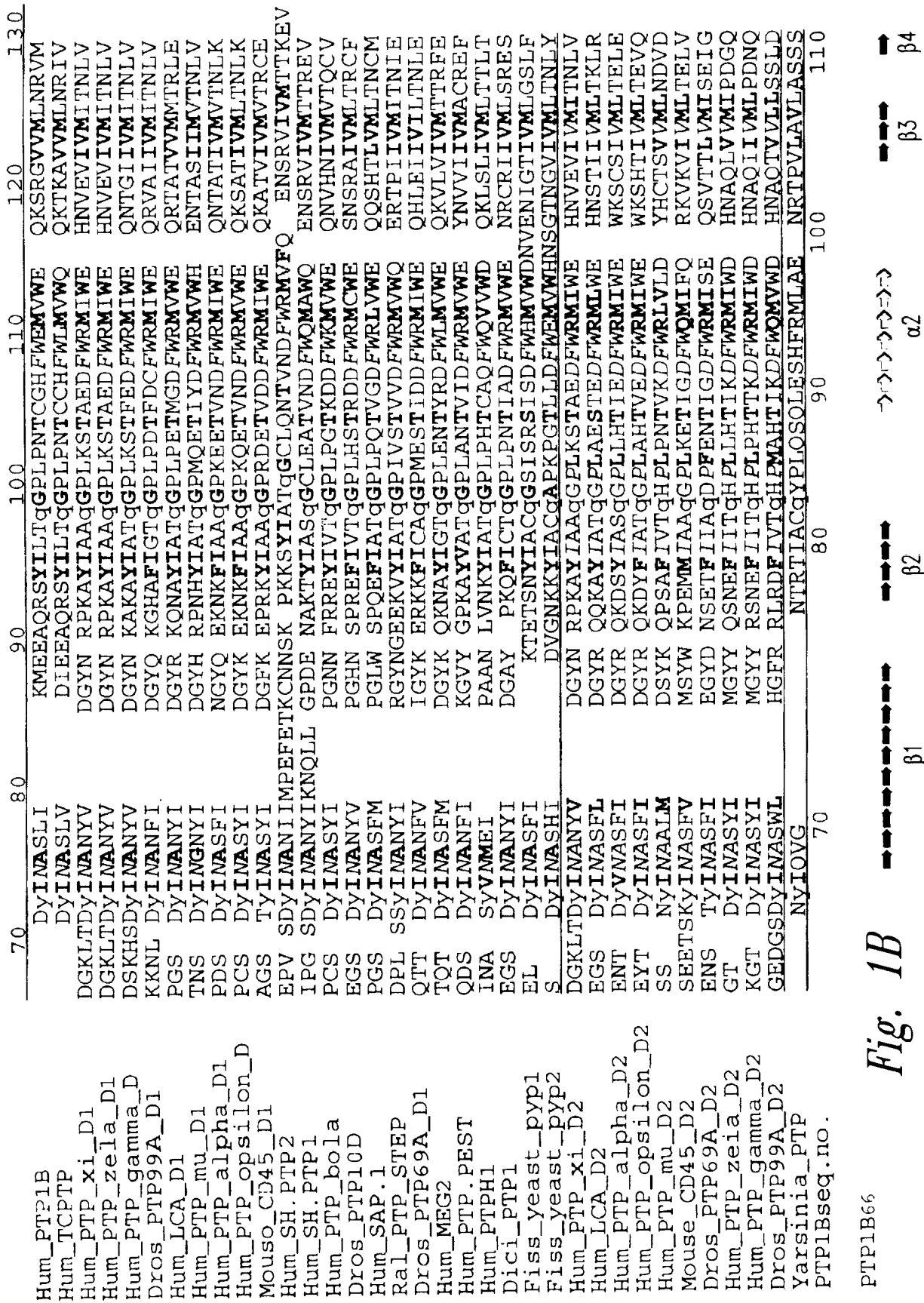
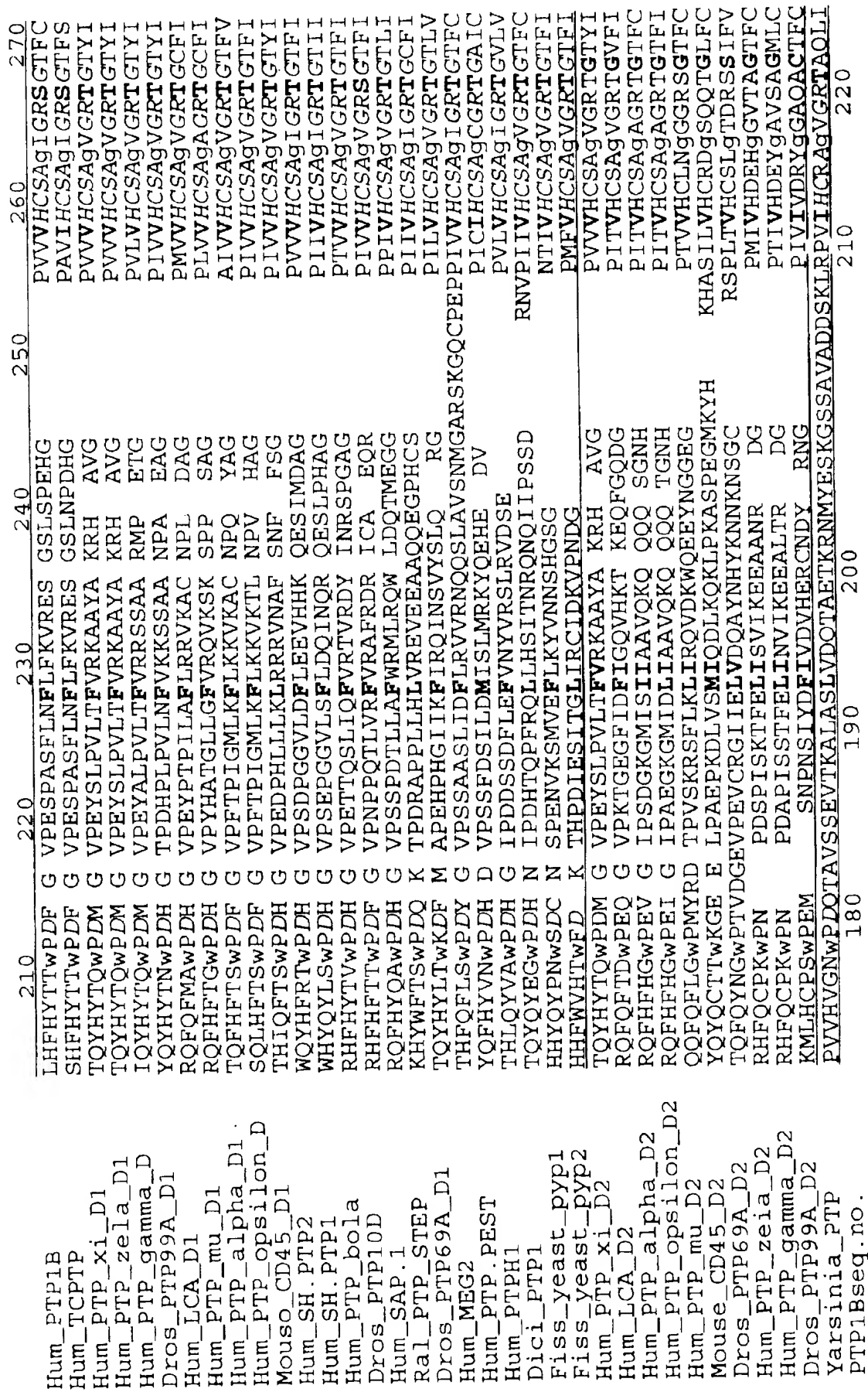


Fig. 1B

PTP1B66

Hum_PTP1B	140	EKGSLKCA	QYWPQKEEKEM	150	IFEDTNLKLTLISEDIKSYTVLELE	160	170	180	190	200	NLTQTETREI
Hum_TCPTP		EKESVKCA	QYWP DDQEM		LFKETGFSVKLLSEDDVKSYYTVLQLE						NINSGETRTI
Hum_PTP_xi_D1		EKGRRKCD	QYWP ADGSE		EYGN FLVTQKSQVLAAYTVFTLRNTKIKKG						SQKGRPSGRVV
Hum_PTP_ze1a_D1		EKGRRKCD	QYWP ADGSE		EYGN FLVTQKSQVLAAYTVFTLRNTKIKKG						SQKGRPSGRVV
Hum_PTP_gamma_D		EKGRRKCD	QYWP TENSE		EYGN IIVTLKSTKIHCYTVFSIRNTKVKKGQKGNPKGRQNERVV						KKQCNTEKLV
Dros_PTP99A_D1		ERGRRKCD	MYWP KDGVE		TYGV IQVKLIEEEVMSTYTVLQIKHLKLKK						KKSSESEKREL
Hum_LCA_D1		EKSRVKCD	QYWP ARGTE		TCGL IQVTLLDTVELATYTVFALH						KRGVHEIREI
Hum_PTP_mu_D1		EVGRVKCC	KYWP DDE		IYKD IKVTLIETELLAEYVIFAVE						DMTNRKQPRLI
Hum_PTP_alpha_D1		ERKECKCA	QYWP DQGCW		TYGN IRVSVEDTVLVLDYTVFCIQQVG						PDGCKAPRLV
Hum_PTP_opsilon_D		ERKECKCH	QYWP DQGCW		TYGN IRVSVEDCVLVLDYTVFCIQPQL						KKEKATGREV
Mouso_CD45_D1		EGNRNKCA	EYWP MEETR		AFKD IIVTINDHKRCPDYIILNVAH						VGQGNTERTV
Hum_SH.PTP2		ERKSKCV	KYWP EYALK		EYGV MRVRNVKESAADHYTLLKLSK						LDNGDLIREI
Hum_SH.PTP1		EKGRNKCV	PYWP VGMQR		AYGP YSVTNCGEHDTTEYKLLQVSP						EEQLDAHRLI
Hum_PTP_bola		EKGRVKCD	HYWPA DQDSL		YYGD LILQMLSESVLPWTIFKICG						RGSEQRIL
Dros_PTP10D		EKGREKCD	QYWP DTVPV		FYGD IKVQILNDSHYADWVMFMLC						QVEEQKTLVS
Hum_SAP.1		EAGRVKCE	HYWPL DSQPC		THGH LRVTLVGEEVMENWTVLLLL						RGTEERGL
Ral_PTP_STEP		EMN EKCT	EYWP EEQV		VHDG VEITVQKVIHTEDYRLISLR						VGEEEDRRQI
Dros_PTP69A_D1		EYNKAKCA	KYWP KEVFDTK		QFGD ILVKFAQERKTGDYIELNVSKNKAN						NTEERQKRQV
Hum_MEG2		EGRRKCG	QYWP LEKDSRI		RFGF LVTNLGVENMNHKKLEIH						FQNESSRL
Hum_PTP.PEST		EMGRKKCE	RYWPLYGEDPI		TFAP FKISCEDEQARTDYFILLLE						NTQTGEEHTV
Hum_PTPH1		ERGRTKCH	QYWP PPDVM		NHGG FHIQCQSEDCITAYVSMMLVT						LTFEGETRDI
Dici_PTP1		ENCRICKD	RYWPEQIGGEQFSIYGNNGNEVFGTVEVIQCREIITRNIR								NANFSPVKKV
Fiss_yeast_pyp1		EAGREMCT	AYWPSNGIGDK QVYGDYCVKQISEENVDSRFLFEIQ								DKPNGPPKYI
Fiss_yeast_pyp2		EAGSEKCS	QYWPDKDHALCLEGG		LRSVOKYETFEFLKVLHRL						SQKGRPSGRVV
Hum_PTP_xi_D2		EKGRRKCD	QYWP ADGSE		EYGN FLVTQKSQVLAAYTVFTLRNTKIKKG						DARDGQSRTI
Hum_LCA_D2		EMGREKCH	QYWP AERSA		RYQY FVVDPMAEYNMPQYILFKVT						NTRNKSQRI
Hum_PTP_alpha_D2		ERGQEKCA	QYWP SDGLV		SYGD ITVELKKEEECESYTVLLVT						ARQEEQVRVV
Hum_PTP_opsilon_D2		EREQDKCY	QYWP TEGSV		THGE ITIEIKNDTLSEALISIFLVTLNQPPQ						ARPDGGRMV
Hum_PTP_mu_D2		PA QLCP	QYWP ENGVH		RHGP IQVEFVSADLEEDIIISPRIYNA						HSKRKEPRTV
Mouse_CD45_D2		NGDQEVCA	QYW GEGKQ		TYGD MEVEMKDTNRASAYTLFELR						NCKIDDTLKV
Dros_PTP69A_D2		D GPRKCP	RYWA DDEVQ		YDH ILVKYVHSESCPYTFFYVVT						ATQDDDYVLEV
Hum_PTP_zeia_D2		NMAEDEFV	YWPNKDEPINCESFKVTLMAEHKLCLSNEEKLIIFILE								ATQDDDYVLEV
Hum_PTP_gamma_D2		SLAEDEFV	YWPSREESMNCFAFTVTLISKDRCLSNEEQIIIFILE								SIQDDYELTV
Dros_PTP99A_D2		D INFA	QFWPDEATPIESDHY		RVKFLNKTNKSDYVSFVIO						REAGOKTISV
Yarsinia_PTP		EIANQRFQMPDYFR	QSGT YGSITVESKMTQOVGLGDGINMYTLTI								
PTP1Bseq.no.											

PTP1B66  
 Fig. 1C  
 β5 β6 β7 β8

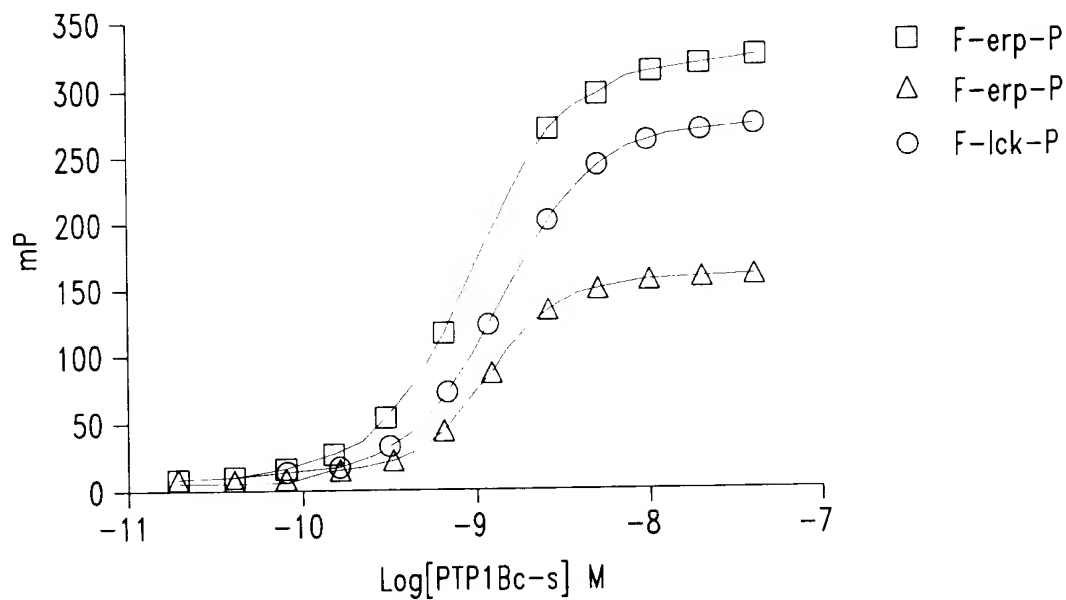


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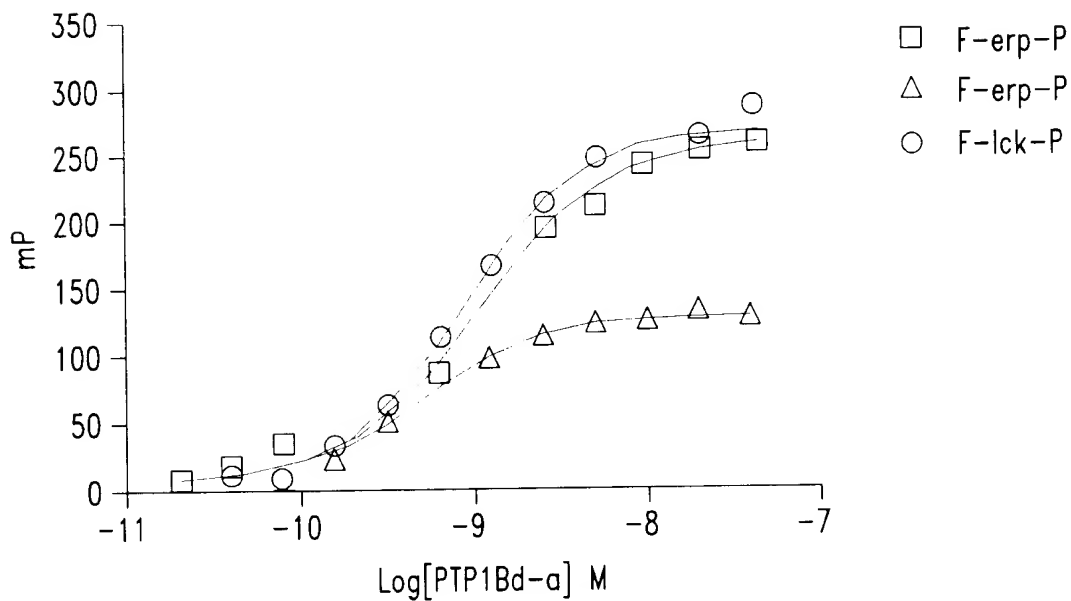
*Fig. 1D*

	280	290	300	310	320	330	340
Hum_PTP1B	LADTCLLLMDKR	KDPSSVDI	KKVLLMRKFRMG	LIQTADQLRFSYLA	LVIEGAKFIMGD		
Hum_TCPTP	LVDTCVLVMEKG	DD	INI	KQVLNMRKYRMG	LIQTDPQLRFSYMA	IIEGAKCIKGDSS	
Hum_PTP_xi_D1	VLDSTMLOQIQHE	GT	VNI	FGFLKHIRSQRNY	LVQTEEQYVFIHDT	LVIEAILSKETEV	
Hum_PTP_zeia_D1	VLDSTMLOQIQHE	GT	VNI	FGFLKHIRSQRNY	LVQTEEQYVFIHDT	LVIEAILSKETEV	
Hum_PTP_gamma_D	VIDSMLQIQIKDK	ST	VNV	LGFLKHIRTQRNY	LVQTEEQYIFIHDA	LVIEAILSKETEV	
Dros_PTP99A_D1	VLDAMLKQIQIKDK	NI	VNV	FGFLRHIRARQNF	LVQTEEQYIFLHDA	LVIEAILSKETEV	
Hum_LCA_D1	VIDAMLERMKHE	KT	VDI	YGHVTCMRQRNY	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Hum_PTP_mu_D1	VIDIMLDMAERE	GV	VDI	YNCVRELRSRRVN	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Hum_PTP_alpha_D1	VIDAMLDMMHTE	RK	VDV	YGFVSRIARQRCQ	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Hum_PTP_onsilon_D	VIDAMMAMMHAE	QK	VDV	FEFVSRIARQRCQ	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Mouso_CD45_D1	GIDAMLEGLEAE	GK	VDV	YGVVVKLRRQRCL	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Hum_SH.PTP2	VIDILIDIIREK	GLDCDIDV	VDV	PKTIQMVRQRSG	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Hum_SH.PTP1	VIDMLMENISTK	GLDCDIDI	VDV	QKTIQMVRAQRSG	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Hum_PTP_bola	ALDRILQQLDSK	DS	VDI	YGAHVDLRLHRVH	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Dros_PTP10D	TLDRILQQLQSE	DY	VDI	FGIVYAMRKERVW	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Hum_SAP.1	ALDVLLRQLQSE	GL	LGP	FSFVRKMRRESRPL	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Ral_PTP_STEP	ATSIQCQQLRRE	GV	VDI	LKTTCQLRQDRGG	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Dros_PTP69A_D1	ALDSLIIQQLLEE	DS	VSI	YNTVCDLRHQNF	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Hum_MEG2	SLDICIQAQLEEL	GT	LVN	FQTVSRMRTQRAF	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Hum_PTP.PEST	AIDYTNWLLKAG	KIPEEFNV	LVN	FQTVSRMRTQRAF	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Hum_PTPH1	TMETAMCLTERN	LP	IYP	LDIVRKMRDQRAM	MVQTEEQYVFIHDA	LVIEAILSKETEV	
Dici_PTP1	TAVIMMKLLDHYFK	QDYNSTRIDFNL	FSIVLKLREQRPG				
Fiss_yeast_pyp1	VLDTILRFPESKLSG	FNPSVADSSDVV	FQVLDVHIRKQRMK				
Fiss_yeast_pyp2	AVDQILQVPPKNILPK	TTNLEDSKDFI	NCVNSLRQRMK				
Hum_PTP_xi_D2	VLDSTMLOQIQHE	GT	VNI	FGFLKHIRSQRNY	LVQTEEQYVFIHDT	LVIEAILSKETEV	
Hum_LCA_D2	TLSTVLERMRYE	GV	VDM	FQTVKTLRTQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	
Hum_PTP_alpha_D2	ALSTVLERVKA	GI	LDV	FQTVKSLRLQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	
Hum_PTP_onsilon_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	
Hum_PTP_mu_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	
Mouse_CD45_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	
Dros_PTP69A_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	
Hum_PTP_zeia_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	
Hum_PTP_gamma_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	
Dros_PTP99A_D2	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	
Yarsinia_PTP	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	
PTP1Bseq.no.	ALSNILERVKA	GL	LDV	FQAVKSLRLQRP	MVQTEEQYVFIHDT	LVIEAILSKETEV	

PTP1B66  
 Fig. 1E  
 α4  
 α5  
 α6



*Fig. 2*



*Fig. 3*

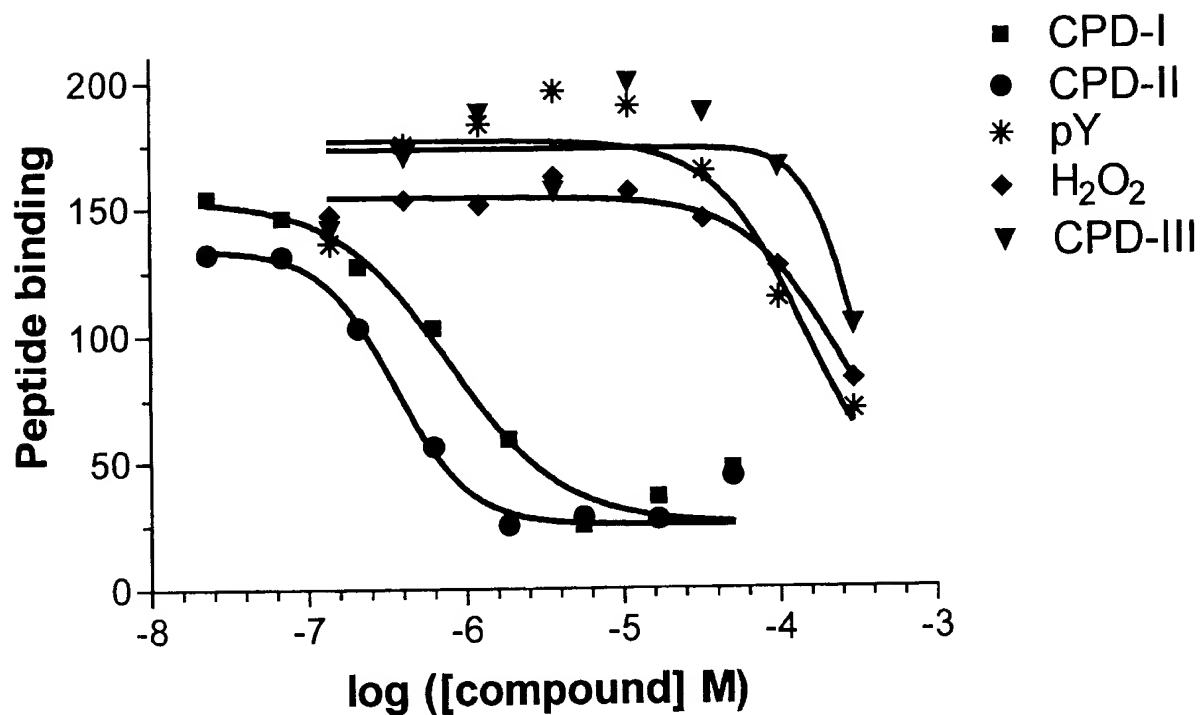


Fig. 4A

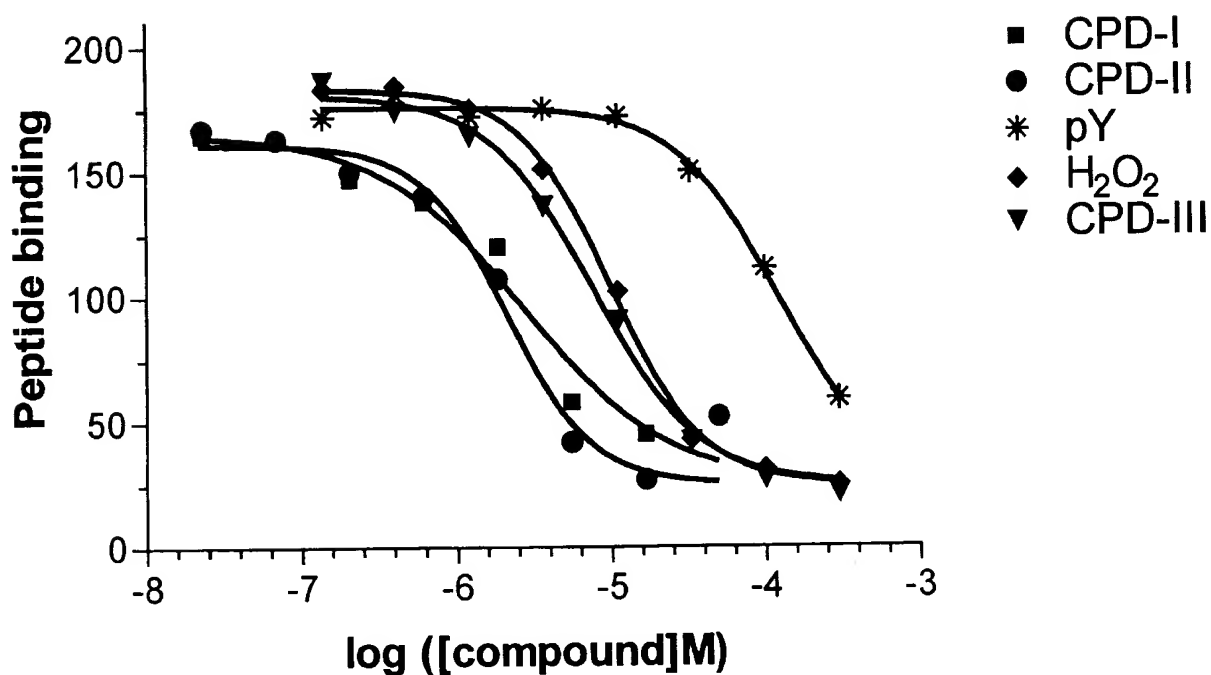
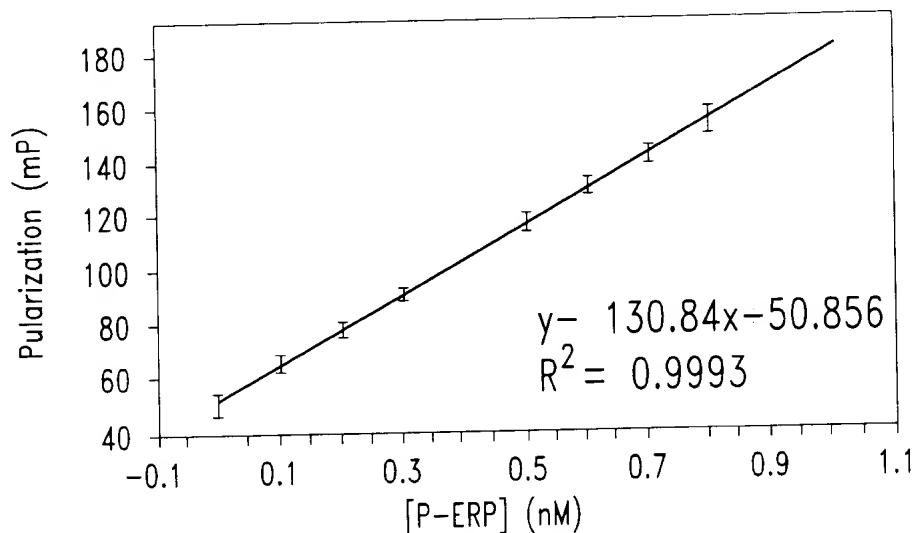


Fig. 4B

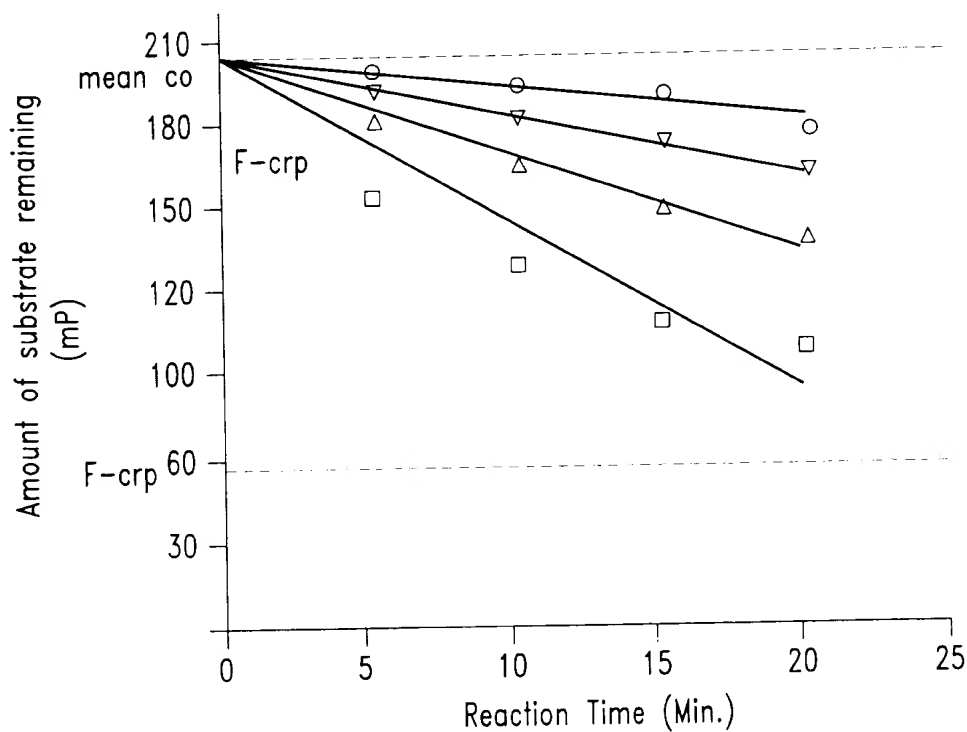
Binding of P-ERP: ERP mixture with G104



*Fig. 5*

Dephosphorylation of F-P-ERP  
 with different amounts of PTP1B

- 0.67ng Ptp 1B
- △ 0.33ng Ptp 1B
- ▽ 0.17ng Ptp 1B
- 0.083ng Ptp 1B



*Fig. 6*



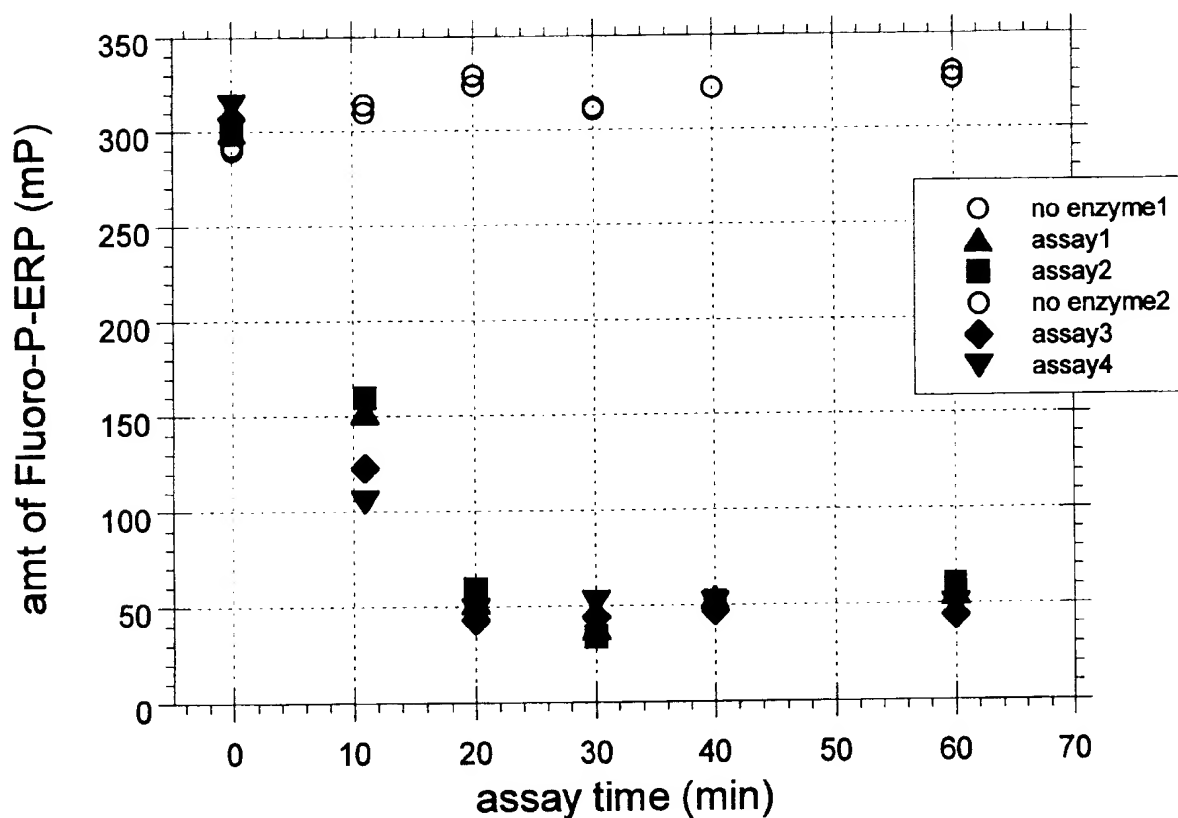


Fig. 7A

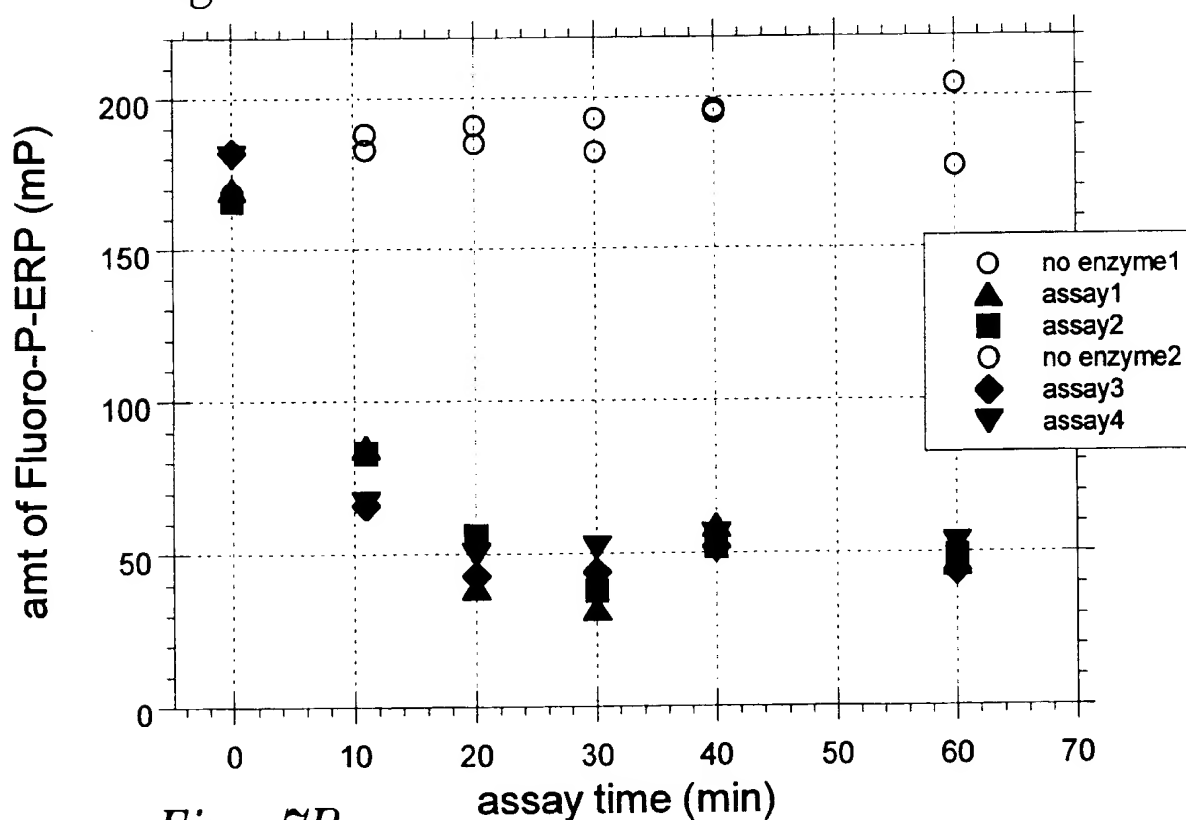


Fig. 7B

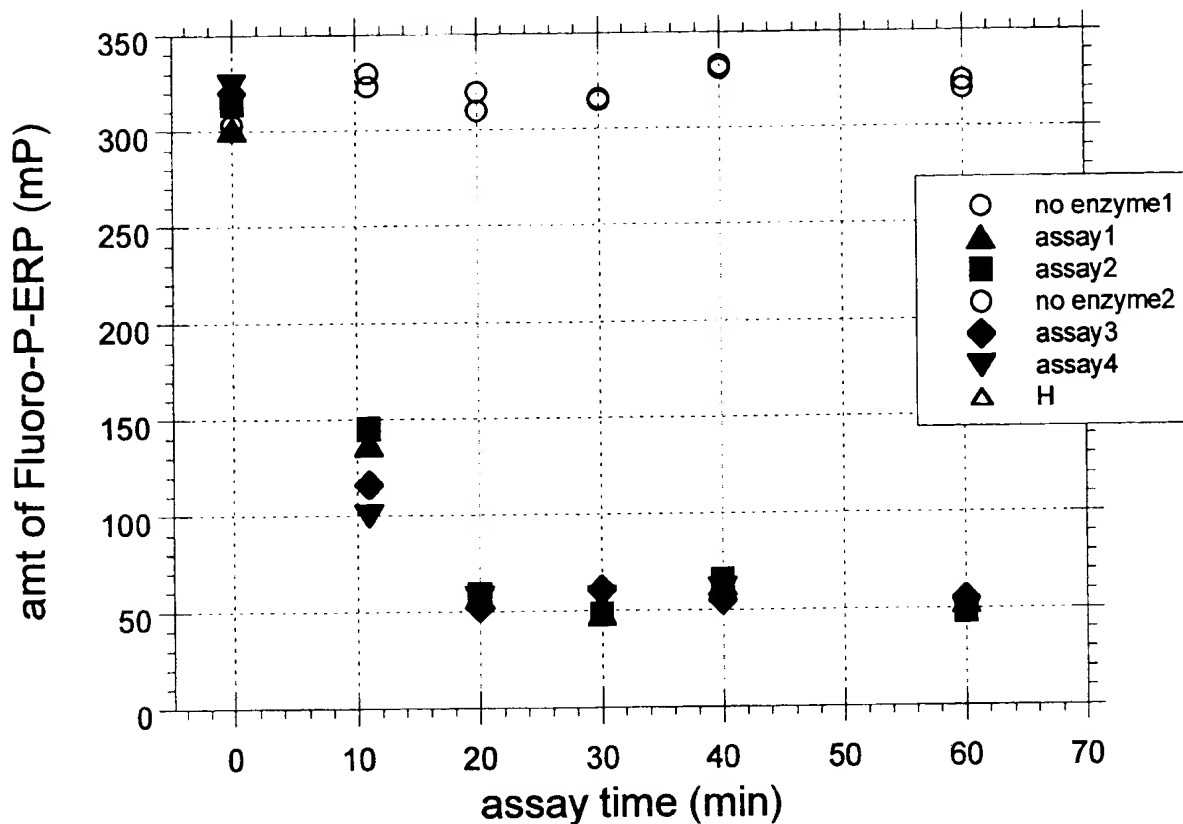


Fig. 7C

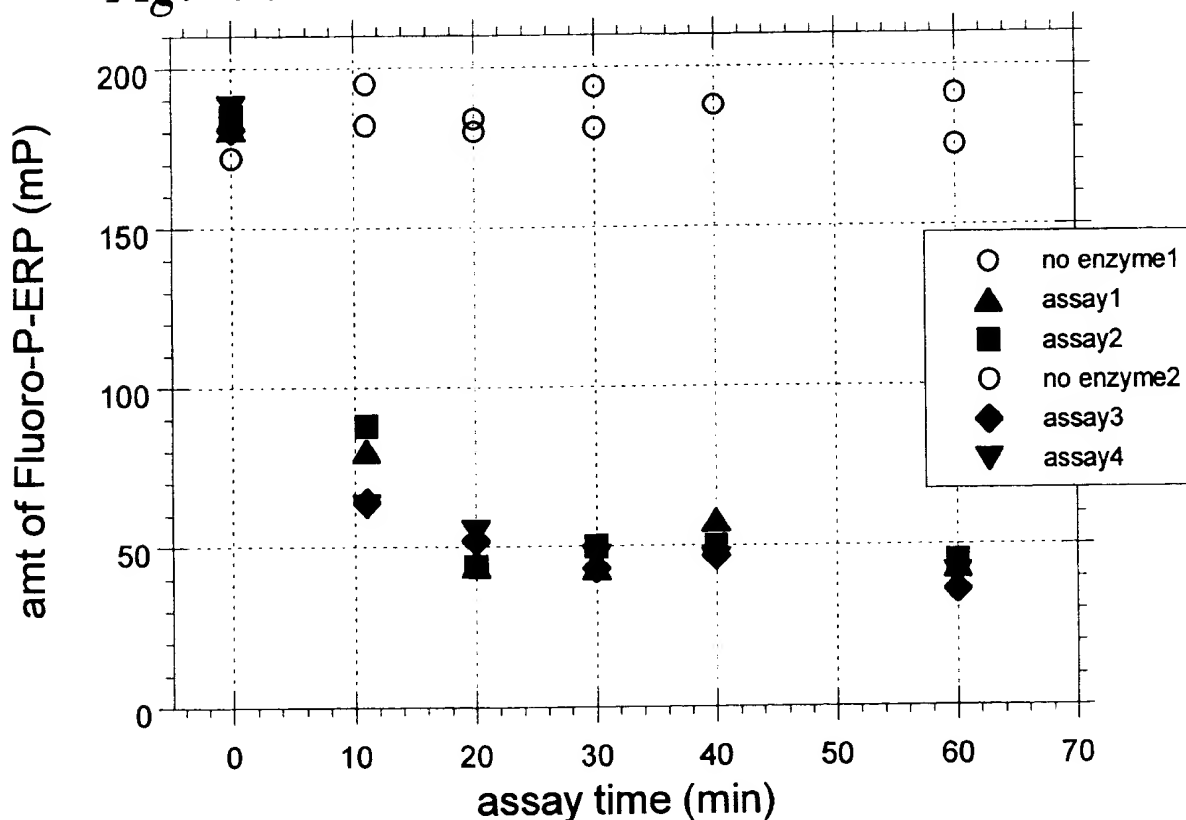


Fig. 7D

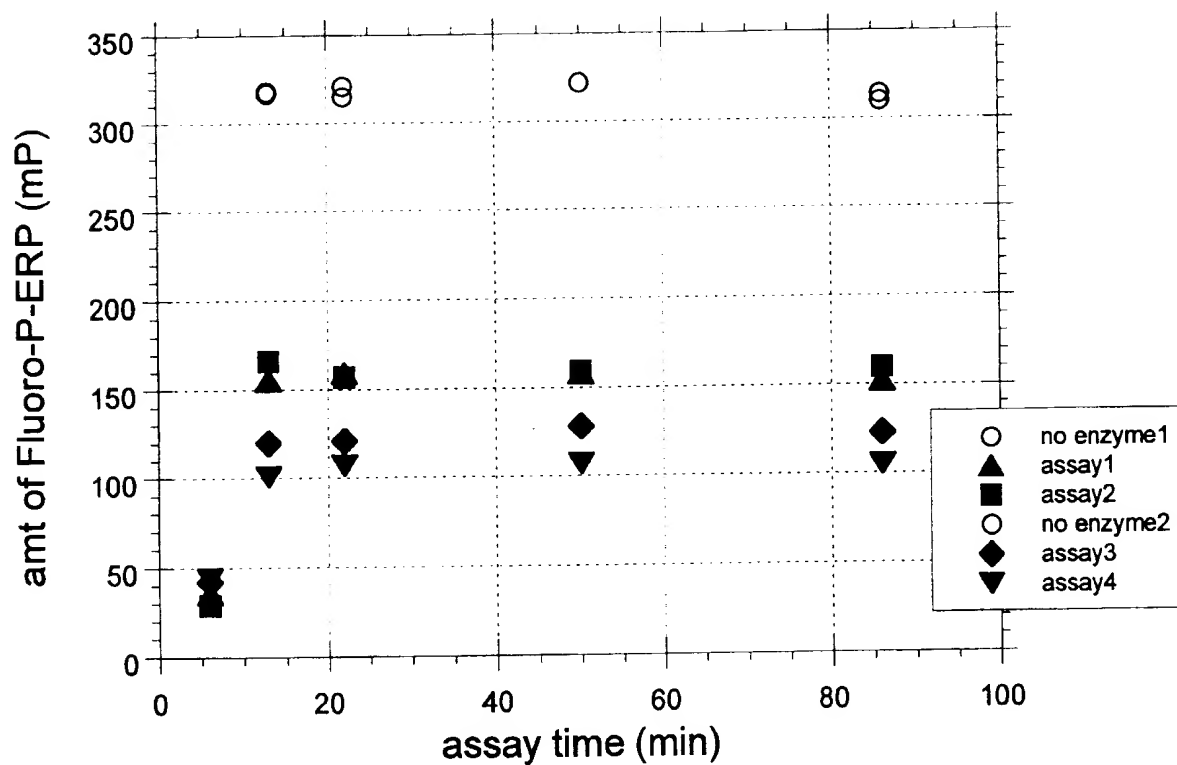


Fig. 8A

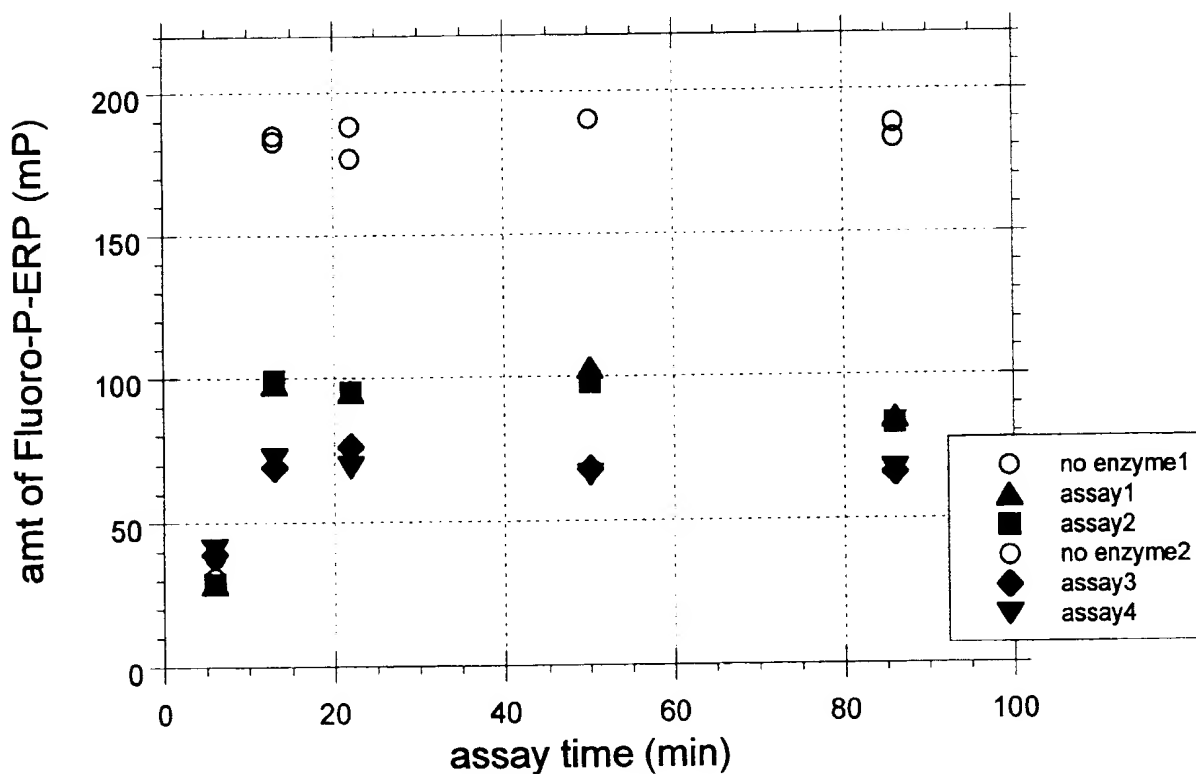


Fig. 8B

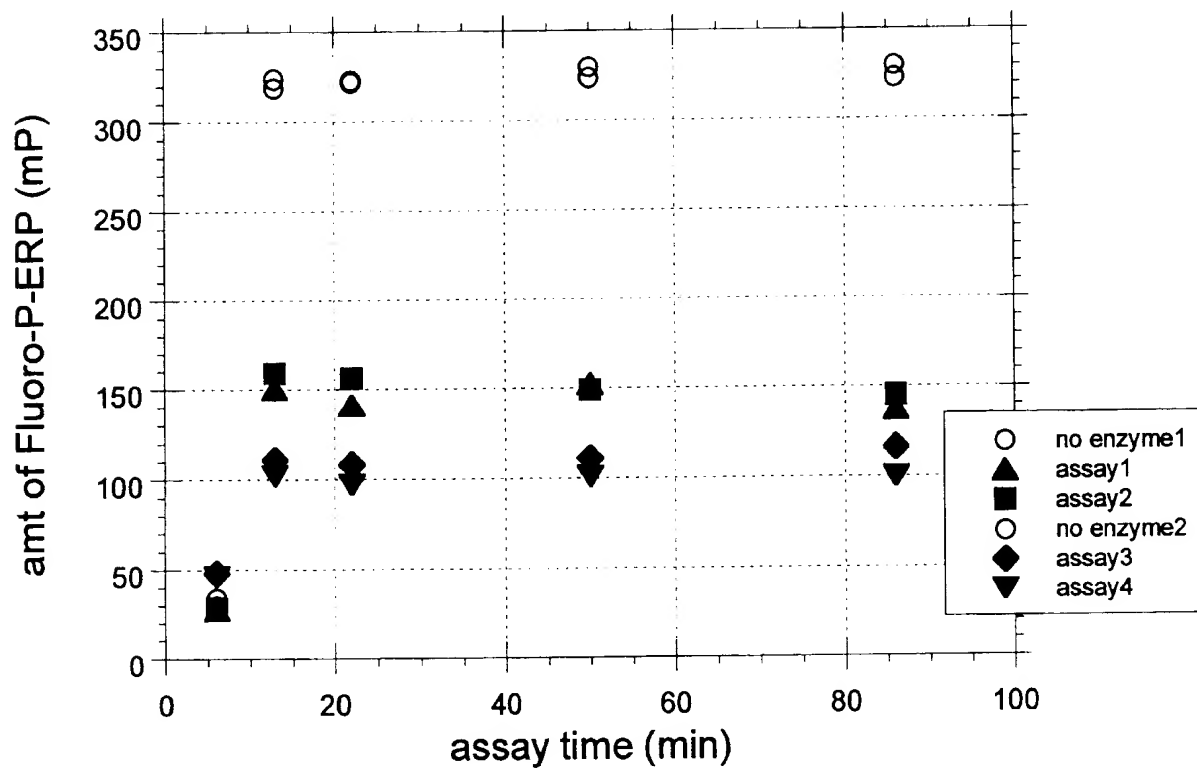


Fig. 8C

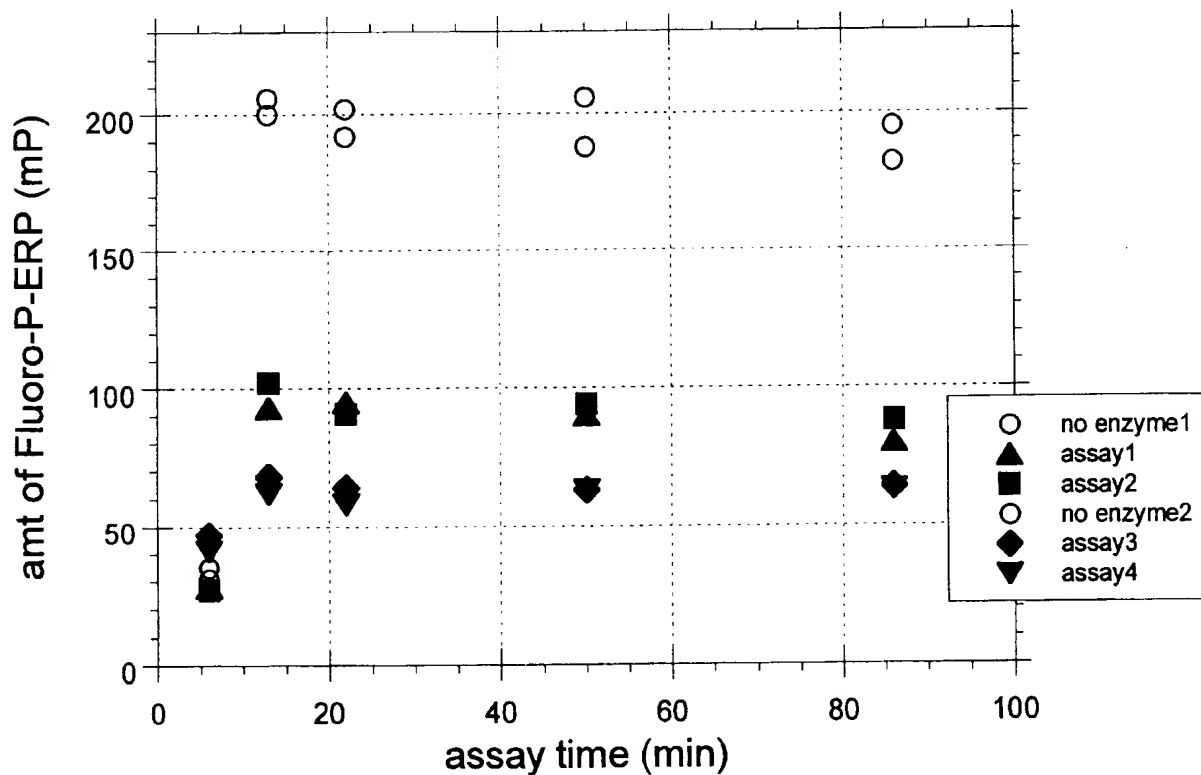
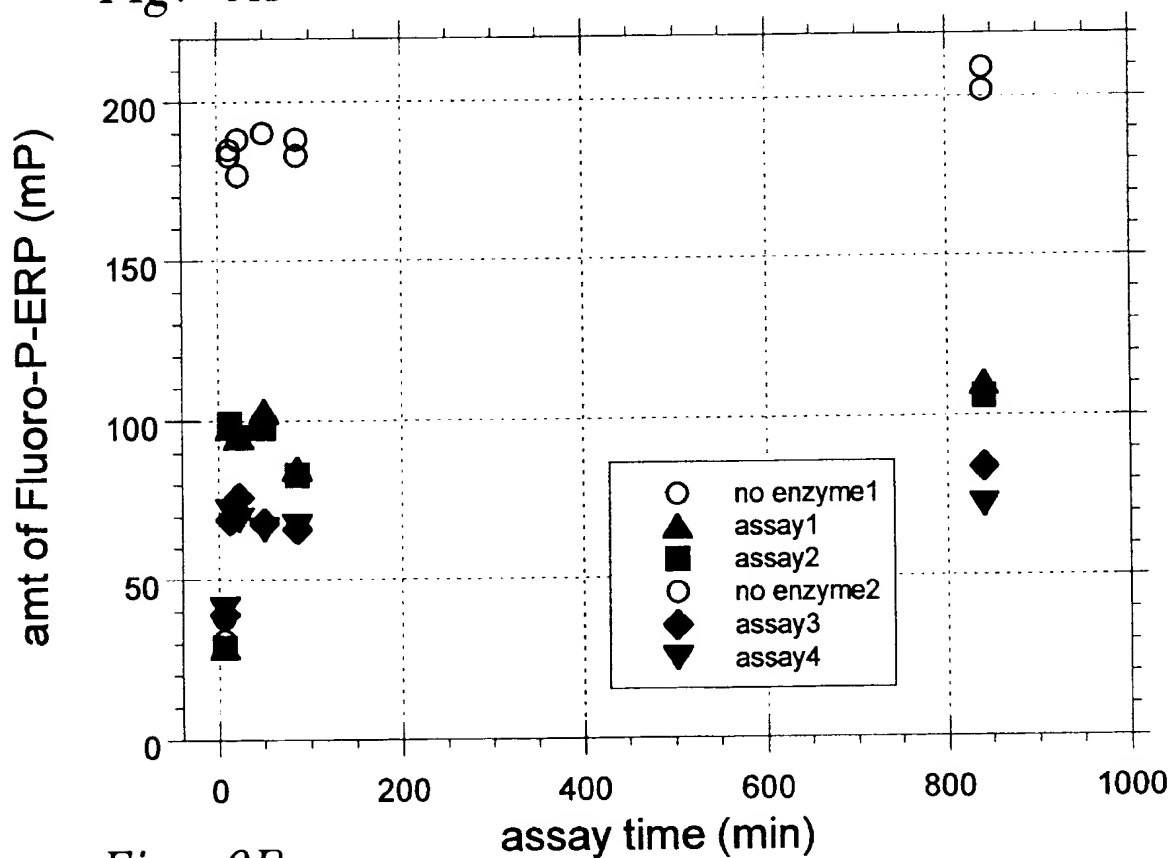
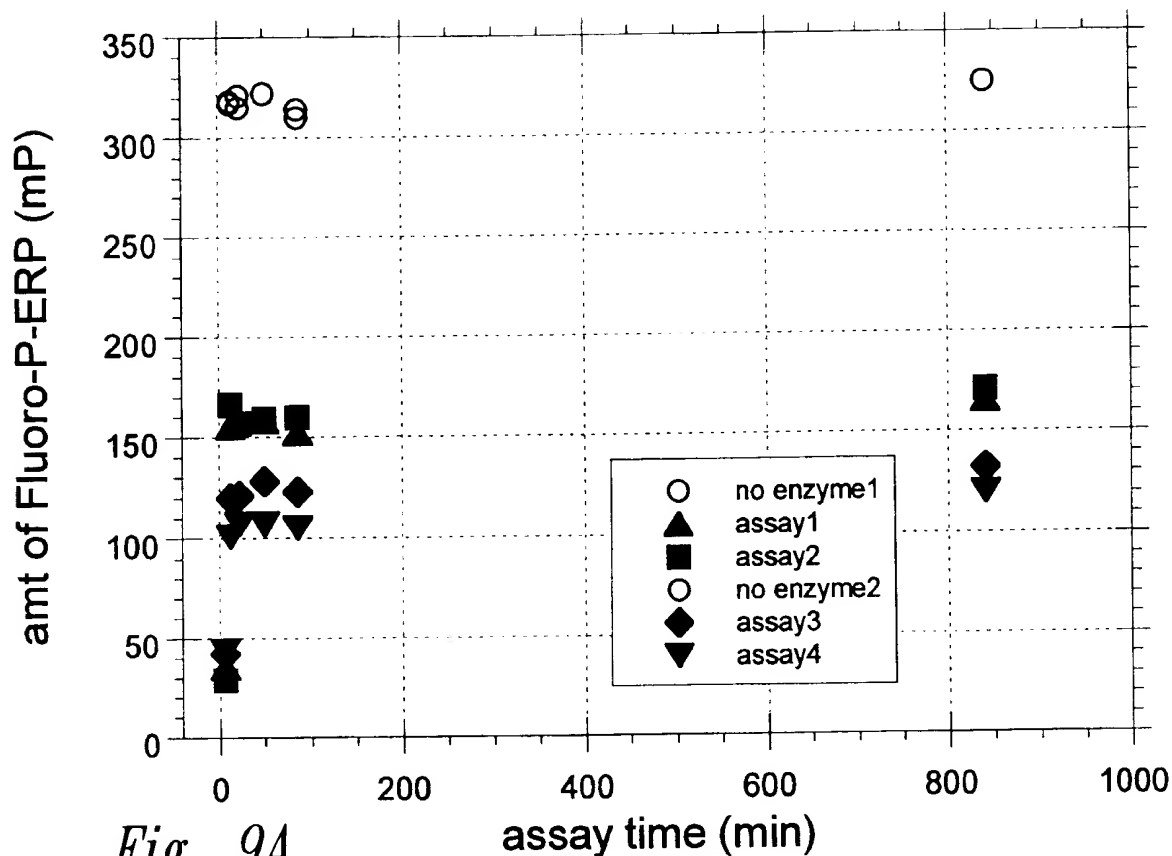


Fig. 8D



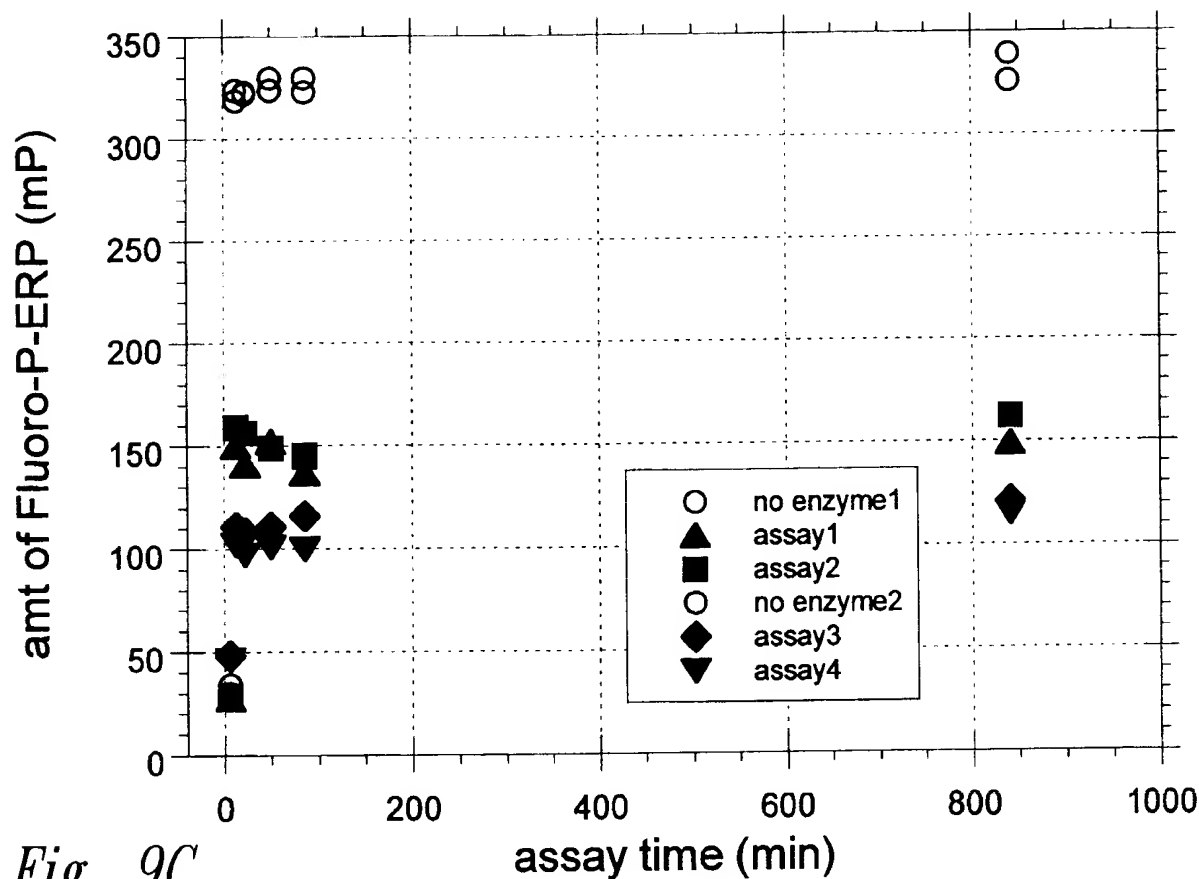


Fig. 9C

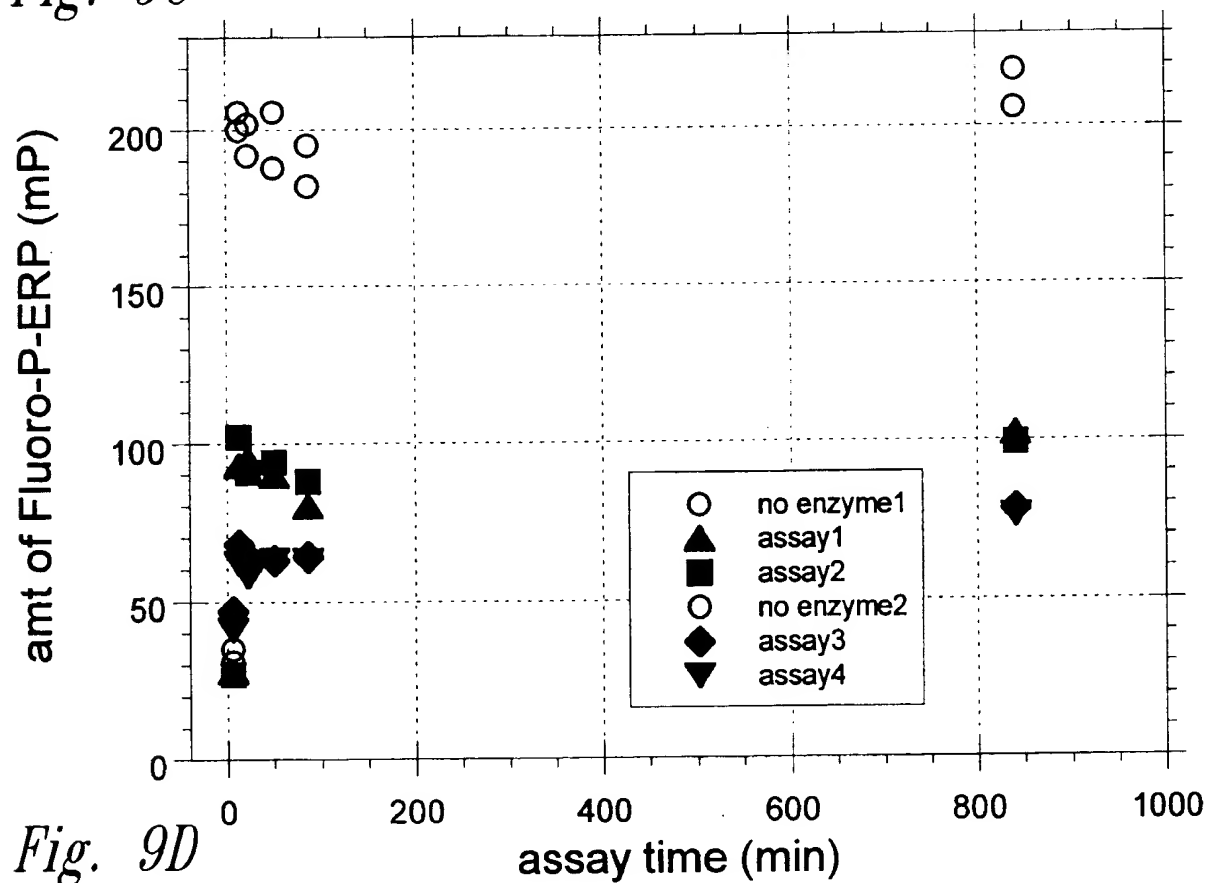
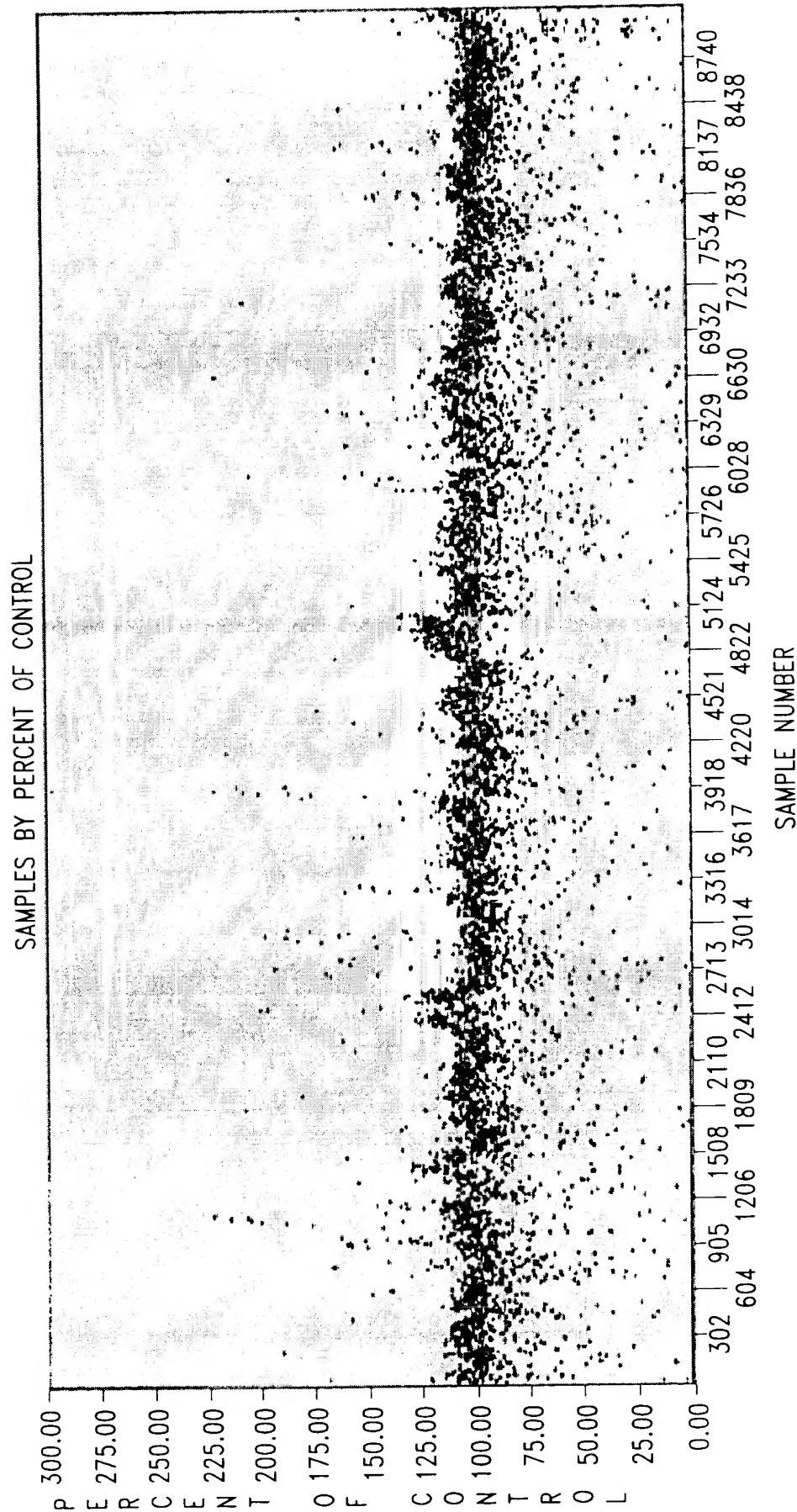
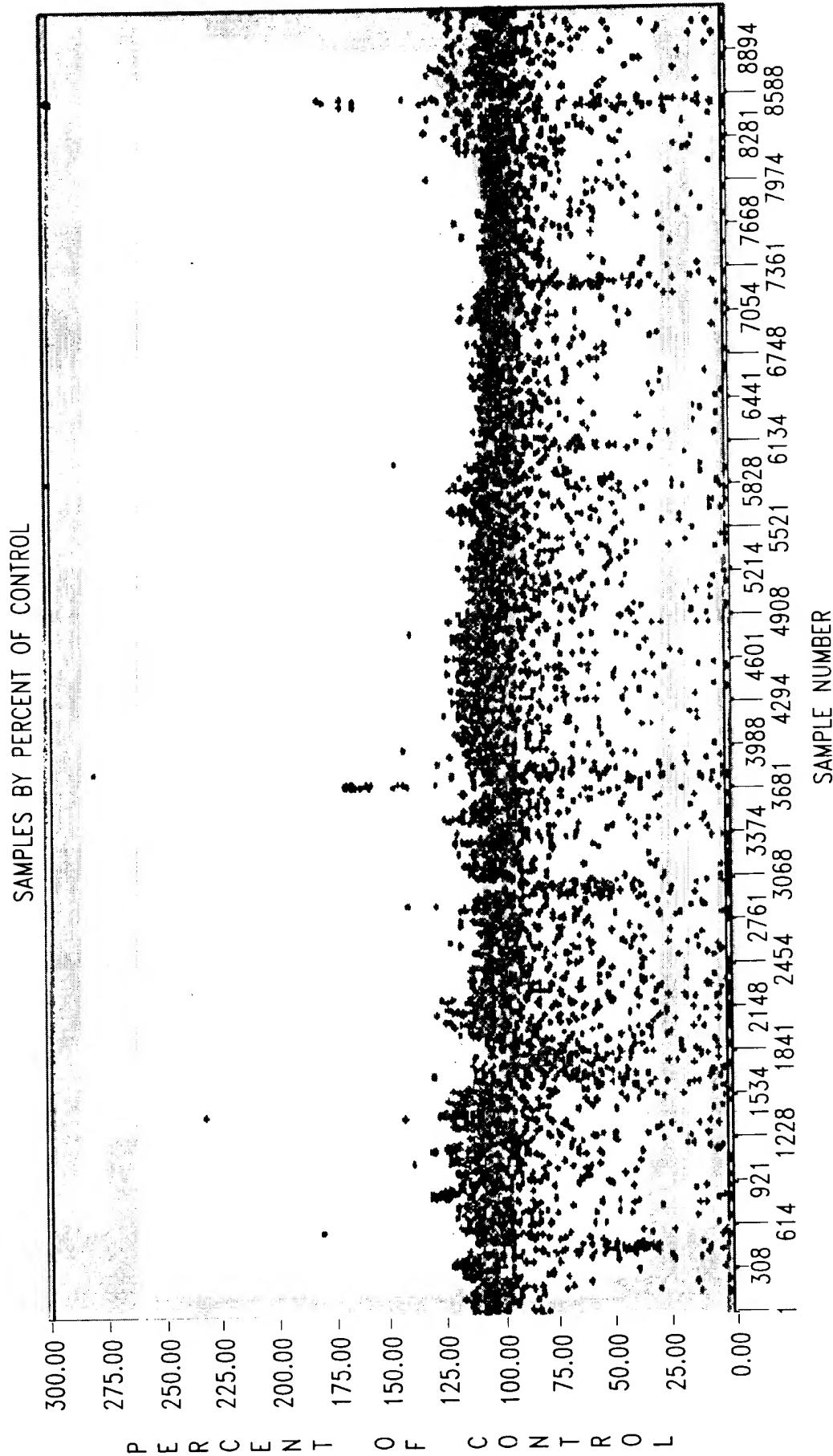


Fig. 9D



*Fig. 10A*



*Fig. 10B*